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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,572	10/19/2001	Tom L. Nguyen	42390P12549	6116

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EXAMINER
BERGER, AUBREY H

ART UNIT	PAPER NUMBER
2134	

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 October 2001*.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☒ Claim(s) *1, 3, 14, 22, 24 and 30* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
   application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)   4)☐ Interview Summary (PTO-413)
                                                                Paper No(s)/Mail Date. _____ .
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)   5)☐ Notice of Informal Patent Application (PTO-152)
   Paper No(s)/Mail Date _____ .   6)☐ Other: _____ .

This action is in response to the communication filed on October 19, 2001.

DETAILED ACTION

1.   Claims 1-30 have been examined.

Title

2.   The title of the invention is acceptable.

Priority

3.   No claim for priority has been made for this application.

4.   The effective filing date for the subject matter defined in the pending

claims in this application is October 19, 2001.

Drawings

5.   The drawings filed on October 19, 2001 are acceptable for examination

proceedings.

Specification

6.   Applicant is reminded of the proper language and format for an abstract of
the disclosure.

      The abstract should be in narrative form and generally limited to a single
paragraph on a separate sheet within the range of 50 to 150 words. It is
important that the abstract not exceed 150 words in length since the space
provided for the abstract on the computer tape used by the printer is limited. The
form and legal phraseology often used in patent claims, such as "means" and
"said," should be avoided. The abstract should describe the disclosure
sufficiently to assist readers in deciding whether there is a need for consulting the
full patent text for details.

      The language should be clear and concise and should not repeat
information given in the title. It should avoid using phrases which can be implied,
such as, "The disclosure concerns," "The disclosure defined by this invention,"
"The disclosure describes," etc.

7.   The abstract of the disclosure is objected to because

Line 1: "One aspect of the invention" must be removed, as it is not a proper heading for the Abstract of the Disclosure.

Correction is required. See MPEP § 608.01(b).

Claim Objections

8.   Claims 1, 3, 14, 22, 24 and 30 are objected to because of the following informalities:

a.   Regarding claim 1, "storage device" in lines 6 and 8 is believed to be the same as the "data storage device" in lines 2 and 4, and should be corrected to maintain consistency throughout the claim language.

b.   Regarding claim 1, "configure as one or more storage regions" in line 2 is not grammatically correct and should be corrected.

c.   Regarding claim 1, "process store" in line 9 is believed to be "program store" and will be treated accordingly.

d.   Regarding claim 3, "non-volatile data store" is believed to be "non-volatile data storage device" and will be treated accordingly.

e.   Regarding claim 14 and 30, "and the corresponding bits of the current content" is believed to be "and the bit mask corresponding to the current content" and will be treated accordingly.

f.   Regarding claim 22, "non-volatile device" is believed to be the same as the "non-volatile storage device" in claim 20 and should be corrected to maintain consistency throughout the claim language.

g.   Regarding claim 22, "each region of one or more bytes" is not grammatically correct and should be corrected.

9.   Claim 24 is objected to under 37 CFR 1.75(c), as being of improper

dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the

claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

10.   Claim 24 is dependent upon claim 23. Claim 23 describes the use of

encryption while claim 24 describes the use of an integrity metric. Claim 24 is

not further limiting because encryption is a type of integrity metric.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in
public use or on sale in this country, more than one year prior to the date of application for patent in
the United States.

11.   Claims 1-30 are rejected under 35 U.S.C. 102(b) as being anticipated by

Gafken (U.S. Patent Number 6,026,016).

12.   Regarding claim 1, Gafken discloses a system comprising a non-volatile

data storage device/flash memory (Fig. 1, #115), configured as one or more

storage regions/memory array (Fig. 1, #130), to store one or more bytes of data

(Col. 4, lines 14-27), a program store/other memories (Fig. 1, #125)

communicatively coupled to the data storage device/flash memory, the program

store/other memories, to store one or more processor-readable instructions to

ascertain the validity of data stored in the non-volatile data storage device/flash

memory (Col. 13, lines 59-60), and if invalid to replace the data with an earlier

stored valid image of the data (Col. 13, lines 60-63) and a processing

unit/processor (Fig. 1, #110), coupled to the data storage device/flash memory,

and program store/other memories, to read and process the instructions in the program store/other memories.

13.   Regarding claim 2, Gafken discloses that the processing unit/processor, is configured to process the instructions in the program store/other memories, as part of a start-up procedure. (Fig. 5).

14.   Regarding claim 3, Gafken discloses the data stored in the non-volatile data storage device/flash memory, is a Basic Input Output System (BIOS)/boot code in Fig. 3, #330. The BIOS is disclosed as part of the boot code in Col. 12, ¶4.

15.   Regarding claim 4, Gafken discloses that the processor-readable instructions in the program store/other memories, ascertain the validity of the data stored in the non-volatile storage device/flash memory, on a region-by-region basis in Col. 12, ¶7 and Col. 13, ¶8.

16.   Regarding claims 5 and 6, Gafken discloses that the earlier stored valid image of the data is stored in a location that cannot be modified without system authorization (Fig. 5 & Col. 12, ¶6) wherein system authorization includes employing a system interface/network interface (Fig. 1, #117 & Col. 12, ¶7), to perform modification to the data stored in the non-volatile storage device/flash memory.

17.   Regarding claims 7-9, Gafken discloses that ascertaining the validity of the data stored in the non-volatile storage device/flash memory, includes determining if the current data in the non-volatile storage device/flash memory, is different than the earlier stored valid image of the data and determining if an

integrity metric corresponding to the current data in the non-volatile storage device/flash memory, is different than the same integrity metric corresponding to the earlier stored valid image of the data, in Col. 12, lines 59-62.

18.   Regarding claims 10-11 and 15, Gafken discloses reading the current content stored in a non-volatile storage device/flash memory, determining if the current content has been modified without authorization (Fig. 5, #505), replacing the current content with previously stored valid image of the content if the current content is determined to have been modified without authorization (Fig. 5, #510) and reading the valid image of the previously stored content (Fig. 5, #550), and comparing the previously stored content to the current content to determine if the current content has been modified (Col. 13, ¶7-8), storing a valid image of the current content for later use (Fig. 5, #580).

19.   Regarding claims 12-14, 18 and 28-30 Gafken discloses determining if the current content has been modified without authorization includes comparing a previously stored checksum/integrity metric, cyclic redundancy check value/integrity metric, or bit mask/integrity metric, corresponding to the valid image of the previously stored content and the checksum/integrity metric, cyclic redundancy check value/integrity metric, or bit mask/integrity metric, corresponding to the current content (Col.12, ¶7).

20.   Regarding claim 16, Gafken discloses the content is read from the non-volatile storage device/flash memory, as part of a start-up procedure in Fig. 3, #330.

21.   Regarding claims 17 and 19, Gafken discloses arranging a non-volatile

storage device/flash memory, into one or more storage regions/memory array,

generating an integrity metric (Col. 12, ¶7), corresponding to the valid content

stored in a first region/block 1 (Fig. 1, #130), of the non-volatile storage

device/flash memory, and storing the integrity metric to later determine if the

content in the first region/block 1, has been modified without authorization,

replacing the first region/block 1, with an earlier version of the content therein if it

is determined that there was an unauthorized modification (Fig. 5 & Col. 14, ¶4-

5).

22.   Regarding claims 20-22, Gafken discloses arranging a non-volatile

storage device/flash memory, into one or more storage regions/memory array,

and comparing current content in a first region/block 1, to an earlier stored image

of the content in the first region/block 1, and replacing the current content stored

in the first region/block 1, with the previously stored content of the first

region/block 1, if it determined that there was an unauthorized modification of the

current content, wherein the method is implement as part of a start-up procedure,

wherein the non-volatile device/flash memory, is arranged into one or more

logical regions, each region of one or more bytes (Fig. 5 & Col. 14, ¶4-5).

23.   Regarding claims 23-25, Gafken discloses arranging a non-volatile

storage device/flash memory, into one or more storage regions/memory array,

verifying that the content in the non-volatile storage device/flash memory, is valid

(Fig. 5, #505), and encrypting the content in a first region by use of a first

encryption key and protecting the content of a second region with a second

encryption key (Col. 12, ¶7 & Col. 14, ¶5).

24.   Regarding claims 26-27, Gafken discloses a machine-readable medium

having one or more instructions for protecting content in a non-volatile storage

device/flash memory, against unauthorized use, which when executed by a

processor (Fig. 1, #110), causes the processor to perform operations comprising:

reading current content stored in a non-volatile storage device, determining if the

current content has been modified without authorization (Fig. 5, #505), and

replacing the current content with a previously stored image of the content if the

current content is determined to have been modified without authorization (Fig. 5,

#510), wherein determining if the current content has been modified without

authorization includes reading an image of previously stored content, and

comparing the previously stored content to the current content to determine if the

current content has been modified (Fig. 5).

Conclusion

25.   Claims 1-30 have been rejected.

26.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

        h.   U.S. Patent Number 6,487,646 is cited for disclosing a data storage

        device capable of restricting access to data storage or retrieval.

        i.   European Patent Application EP1030237 A1 is cited for disclosing

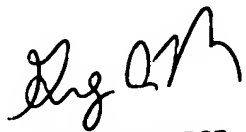   a device for authenticating an integrity metric of the BIOS memory.

j.   U.S. Patent Application Publication Number 2002/0157010 is cited

for disclosing a computer system having a protected partition stored in

non-volatile storage that is encrypted during initialization.

k.   U.S. Patent Application Publication Number 2004/0034819 is cited

for disclosing cyclic redundancy check and checksum methods to protect

data storage.

27.   Any inquiry concerning this communication or earlier communications from

the examiner should be directed to Aubrey H. Berger whose telephone number is

(571)272-8155. The examiner can normally be reached on Monday - Thursday,

7:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Greg Morse can be reached on 571-272-3838. The fax

phone number for the organization where this application or proceeding is

assigned is 703-872-9306.

Information regarding the status of an application may be obtained from

the Patent Application Information Retrieval (PAIR) system. Status information

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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-

free).

GREGORY MORSE
SUPERVISORY PATENT EXAMINER
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